

SHORT COMMUNICATION

A NEW SPECIES OF *PSEUDOTROGULUS* ROEWER AND ASSIGNMENT OF THE GENUS TO THE HERNANDARIINAE (OPILIONES, GONYLEPTIDAE)

Carlos Leandro Firmo and Ricardo Pinto-da-Rocha: Universidade Bandeirante de São Paulo, Pró-Reitoria de Pós-Graduação e Pesquisa, Rua Maria Cândida, 1813, São Paulo, SP, Brazil, 02071–013

ABSTRACT. *Pseudotrogulus funebris*, new species, is described from Estação Biológica de Paranapiacaba (Santo André, State of São Paulo, Brazil). *P. funebris* differs from other species of the genus by the presence of a large number of tubercles on area I close to the median groove, area III with tubercles concentrated in the median region, tergite III with a large rhomboid tubercle and tarsus III-IV with 8 articles. *Pseudotrogulus* is newly transferred to Hernandariinae based on the following characteristics: 1) median-anterior tubercles on anterior margin pointing upwards; 2) large tubercles on lateral-anterior margin; 3) eye mound with two tubercles upward.

Keywords: Hernandariinae, Neotropics, Opiliones, *Pseudotrogulus*.

The harvestman genus *Pseudotrogulus* Roewer (1932) was originally described in the subfamily Cranainae (Gonyleptidae). This genus remained monotypic until Kury (1992) described a second species and transferred it to the Gonyleptinae, based upon the pyriform ventral plate of the penis and the parabolic dorsal cleft. Kury (1992) discovered that the location record of the type species, *P. telluris* Roewer 1932 Caldeirão (Rio Madeira, Rondônia, Brazil) due to a mislabelling, recorded another specimen from Parque Nacional da Serra dos Órgãos (Teresópolis, Rio de Janeiro, Brazil) and described a second species, *P. mirim*, from Parati, Rio de Janeiro State, Brazil.

We here report on a new species of *Pseudotrogulus* from São Paulo, and comment on the subfamilial position of the genus. Material is lodged in Museu Nacional do Rio de Janeiro (MNRJ) and Museu de Zoologia da Universidade de São Paulo (MZSP).

Pseudotrogulus funebris new species
Figs. 1–6

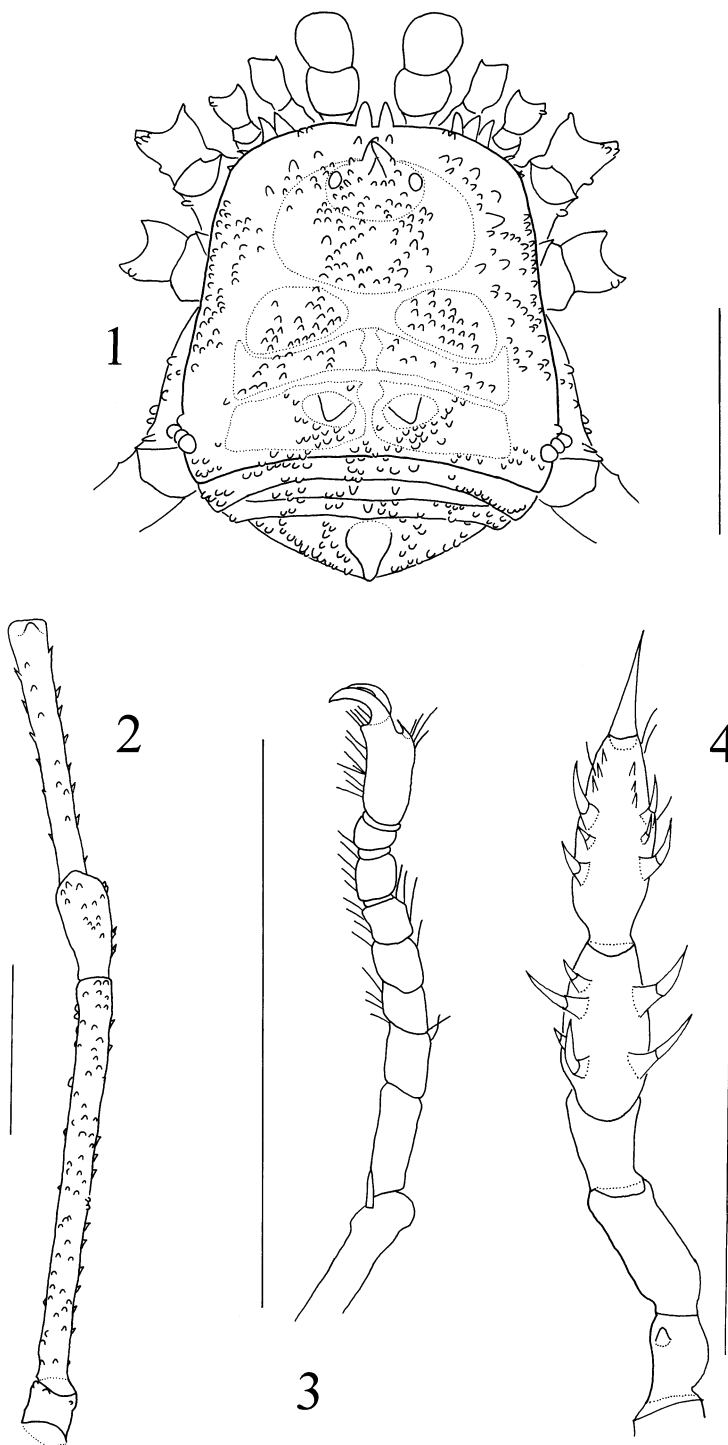
Type material.—Holotype male (MZSP 16645), 1 male paratype and 2 female paratypes (MZSP 16646) from Estação Biológica de Paranapiacaba, Santo André, São Paulo,

Brazil, 27 September 1998, R. Pinto-da-Rocha, C.L. Firmo and M.E. Chaves. 1 male paratype (MZSP 16.644), same locality, 17 May 1998, R. Pinto-da-Rocha, C.L. Firmo & R. Cordenonsi; 2 male and 2 female paratypes (MNRJ 4393), same locality, 28 December 1999, S. Reidel & R. Pinto-da-Rocha.

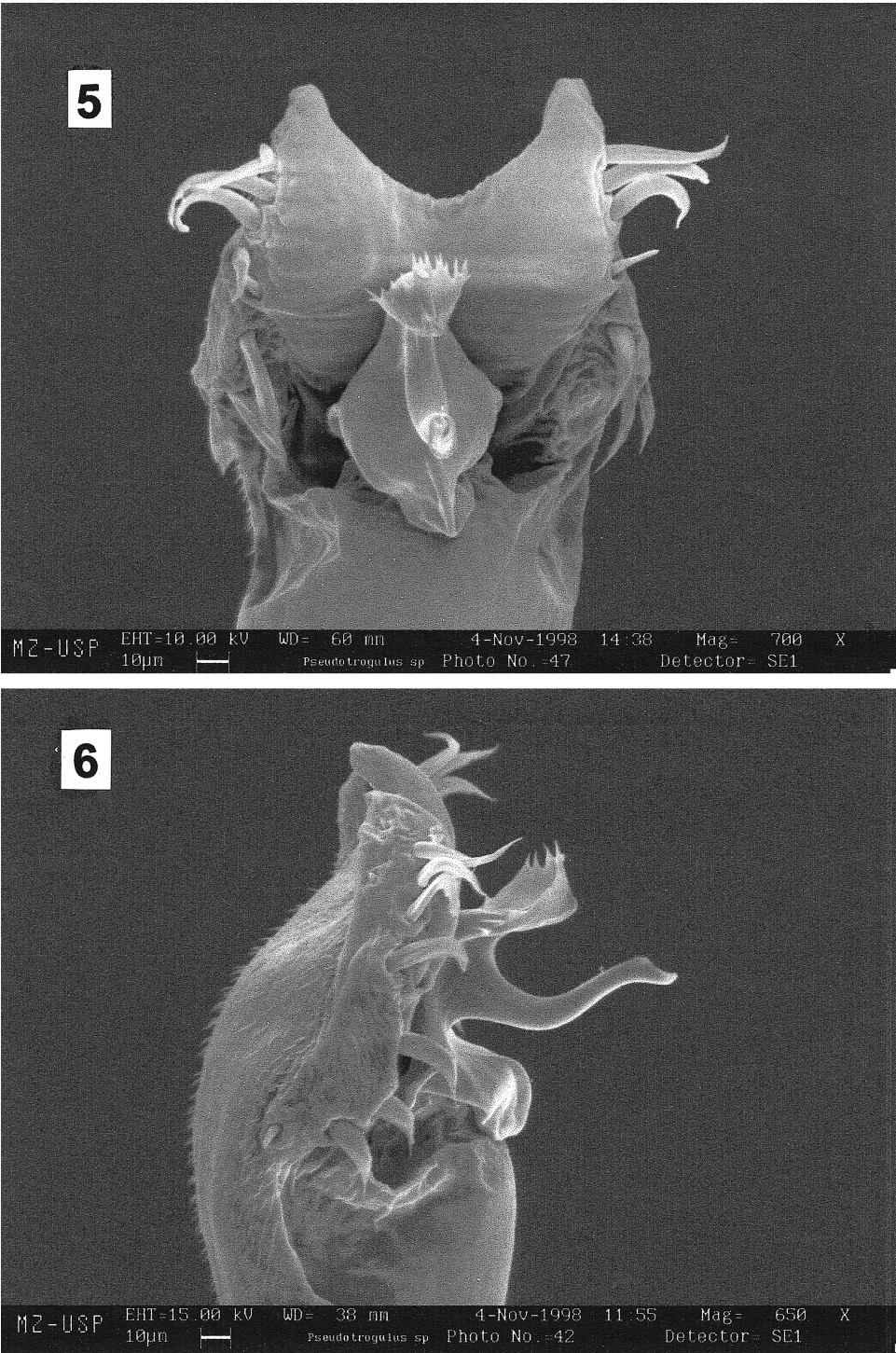
Etymology.—From the Latin *funebris*, in reference to the dark coloration and the thanatotic behavior of all species of the genus.

Diagnosis.—Differs from *P. mirim* Kury, 1992 and *P. telluris* Roewer, 1932 by the presence of a large number of tubercles on area I close to the median groove (*P. telluris* with tubercles on entire area; *P. mirim* with tubercles only close to posterior margin); area III with tubercles concentrated in the median region (tubercles in entire area in *P. telluris*, smooth in *P. mirim*); tergite III with a single large rhomboid tubercle (three large tubercles in *P. telluris* and *P. mirim*). Tarsus III-IV with 8 articles (5 in *P. telluris* and *P. mirim*).

Description.—*Male*: Measurements (in mm): Dorsal scute length 2.8; width 2.5; cephalothorax length 1.4; pedipalp 3.0; leg I 5.6; II 16.2; III 11.4; IV 15.2. *Dorsum*: (Fig. 1) Anterior margin with 2–3 tubercles on each side, central pair forward; cephalothorax with



Figures 1–4.—*Pseudotrogulus funebris* new species, male: 1. Habitus; 2. Dorsal view of trochanter-tibia IV; 3. Tarsus IV; 4. Right pedipalp. Scale bar: 2 mm.



Figures 5–6.—*Pseudotrogulus funebris* new species, penis: 5. Dorsal; 6. Lateral.

small pale tubercles, eye mound with 2 convergent spines directed; area I divided, with several tubercles on central region; area II with sparse tubercles; area III with sparse tubercles, 2 small rhomboid spines; lateral margin with tubercles from coxae III and IV, one pair larger on apex; posterior margin with tubercles sparse. Free tergite I with 26 tubercles, two central tubercles larger; II with 25 tubercles and 2 larger and a central spine; III with 1 conical spine and 36 sparse tubercles. Anal operculum with small sparse tubercles. *Venter*: Coxae I-II with 3 rows of tubercles; III-IV with sparse tubercles. *Chelicera*: Segments I-II smooth dorsally; II with sparse setae, with 7 teeth on fixed finger and 10 on movable finger. *Pedipalp*: (Fig. 4) Coxa smooth; trochanter with 1 ventral tubercle; femur smooth and slightly curved; patella smooth; tibia ectal II, mesal IiIi; tarsus ectal II, mesal IiIi. Legs (Figs. 2-3): Trochanter I with 3 tubercles; II with 8; III with 5; IV with 2. Femur I with 24 tubercles; II with 34; III with 23; IV with 62. Patellae I-II with 14 tubercles; III with 17; IV with 27 sparse tubercles (ventral and dorsal). Tibia I with 6 tubercles; II with 9; III with 10; IV with 16 tubercles. Metatarsi I-IV smooth. Tarsus I-IV 5, 9, 8, 8 segmented. *Penis*: (Figs. 5 & 6) Ventral plate rectangular, with concave cleft on distal margin; basal lobe upwards, with 3 long and 1 short setae on each side; 4 distal setae, long and helicoidal and 1 basal short seta. Stylus cylindrical, sinuous and smooth. Ventral process diamond-shaped, distal margin serrate. *Color*: Dark brown, with dark yellow spots on entire dorsal scute, concentrated on median region of areas I-III. Chelicerae and pedipalpi bright yellow. The brown is more evident in females than in males. The legs show a variation of color from dark yellow to yellow (coxa—tarsus, respectively), less evident on females.

Female: Measurements (in mm): Dorsal scute length 3.0; width 2.8; cephalothorax length 1.4; pedipalp 3.5; leg I 6.2; II 14.5; III 11.8; IV 15.6. Female similar to male in shape of body and tubercles. Pedipalpal tibia ectal II, mesal IiIi; tarsus ectal IiIi, mesal IiI. Legs uniformly dark yellow. Tarsal segmentation: 5 (3), 7 (3), 7, 7.

Remarks.—Kury (1992) transferred *Pseu-*

dotrogulus from the Cranidae to the subfamily Gonyleptinae of the family Gonyleptidae, based upon four synapomorphies of the clade comprising Gonyleptinae, Caelopyginae, Sodreaninae, Progonyleptoidellinae and Hernandariinae. However, he did not mention any synapomorphic characters to support the subfamilial assignment. Based on an unpublished hypothesis for the subfamilies of Gonyleptidae (Pinto-da-Rocha and Kury, unpublished data), we propose here that the genus *Pseudotrogulus* is closely related to the genera *Acrogonyleptes* Roewer 1917 and *Hernandaria* Soerensen 1884 of the subfamily Hernandariinae by the following presumable synapomorphies: 1) median-anterior tubercles on anterior margin directed upwards; 2) large tubercles on lateral-anterior margin of scute; 3) eye mound with two convergent tubercles directed anteriorly; and 4) dorsal scute covered by a camouflage of dirt. The camouflage is probably held by a sticky secretion produced by the cuticle that causes sand and soil particles to adhere, similar to some Troguloidea (Shear 1982). A detailed study on the subfamilial relationships will be published elsewhere by Pinto-da-Rocha and Kury (Museu Nacional do Rio de Janeiro). The preliminary analysis relates Hernandariinae to a monophyletic group formed by Progonyleptoidellinae, Sodreaninae and Caelopyginae.

ACKNOWLEDGMENTS

Thanks are due to Eduardo Catharino, chief of the Estação Biológica do Alto da Serra de Paranapicaba for the access to the preserve, Maria Ester Chaves for help during fieldwork and for preparation of the drawings, and Rodrigo Cordenonsi for help during fieldwork.

LITERATURE CITED

- Kury, A.B. 1992. The false Craninae of the Brazilian Atlantic Forest (Opiliones, Gonyleptidae). *Tropical Zoology* 5(2):279–291.
- Roewer, C.F. 1932. Weitere Weberknechte VII.7 Ergänzung. der “Weberknechte der Erde”. 1923 (Craninae). *Archiv für Naturgeschichte (Neue Folge)* 1(2):275–350.
- Shear, W.A. 1982. Opiliones. Pp. 104–110, *In Synopsis and Classification of Living Organisms* (S.P. Parker, ed.). McGraw-Hill, New York.

Manuscript received 7 September 2000, revised 5 June 2001.